



Patent information on the Internet

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‘If patent offices start to by-pass third party suppliers it will upset the current status quo; however laudable their intentions, they could precipitate a deterioration in the availability and quality of patent information.’

Abstract

The increasing importance of patent information for companies has been matched by the growth in Internet- and Web-based patent information services. These services are currently patchy but are improving steadily in quality and sophistication. Derwent Information's Patent Explorer is the first service to make both European and US patents available on the same Web site in both full text and image form. Considers some of the problems inherent in the current state of the Internet (speed of access, security) and discusses the present and likely future issues associated with the pricing of patent services. Points to the continuing dominance of traditional online hosts and services for patent information, due to the broad coverage and sophistication of searching facilities, but suggests that this may be eroded as Web-based services improve.

Intellectual property – the new wealth of nations

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‘The new technologies, new processes, and new products that constitute intellectual property now form the economic bedrock of international trade and national wealth’, argues Fred Warshofsky, in his book, *The Patent Wars*[1], adding: ‘In the struggle to compete, protecting intellectual property has become as important a weapon as creating it.’

Mr. Warshofsky is one of a growing chorus of voices drawing attention to the increasing importance that patents now play in the commercial environment – as it becomes apparent that in post-industrial economies intellectual capital is a primary source of wealth. ‘Human creativity in the form of ideas, innovations, and inventions’, says Mr. Warshofsky, ‘has replaced gold, colonies, and raw materials as the new wealth of nations.’

While this will come as no surprise to patent attorneys, and those who take a specialist interest in patent information, for others it may be a novel idea. True, intellectual property encompasses more than just patent information, but anyone doubting the importance of Mr. Warshofsky's message might like to ponder on the 15 years of litigation that took place between Kodak and Polaroid. The final settlement – in 1991 – saw Kodak pay Polaroid £556 million in damages for infringement of patents associated with instant camera photography. More strikingly, Honeywell Inc. succeeded in more than doubling its net income for the third quarter of 1992 – despite lower operating revenue – as a result of its success in winning some dozen patent infringement suits against Japanese camera makers, including a \$96 million payment from Minolta.

One of the best ways of avoiding such litigation is through effective use of patent information – at its most basic, simply checking that you are not using a technology that has been patented by a competitor. Likewise, patent information can help companies ensure that they are not wasting research dollars. On its Web site the European Patent Office (EPO) estimates, for instance, that around \$20 000 million a year is wasted in Europe as a result of duplicated research. Pointing out that some 80% of the technical information contained in a patent document is never published anywhere else, the EPO suggests that skilful use of patent information can be of enormous benefit to organizations – not only as a way of avoiding re-inventing the wheel, but in order to piggy-back on the research efforts of others. In addition, of course, regular monitoring of patent applications can help companies to keep a watching brief on their competitors.

A much neglected source of competitive intelligence

However, for many this message remains unheeded, and patent information continues to be a much neglected source of competitive and technological intelligence. The EPO reports that only 59 000 companies in Europe have made use of the patent system in the last five years. This, it says, leaves 'another 111 000 companies that should have used the patent system, but have not.' We can safely assume that many – if not all – these companies are also strangers to the idea of using patent information for competitive intelligence purposes.

No doubt the situation is exacerbated by the – rightly or wrongly – widely held view that patents are an obscure topic, of relevance to specialists alone. This no doubt explains why, although large multinational companies in a handful of heavily research-based sectors such as the chemical and pharmaceutical industries have become voracious consumers of online patent information, other industries – such as engineering – are at best intermittent and lacklustre users. Amongst small- to medium-sized businesses the situation is even bleaker, with many blithely unaware that patent information has anything to offer them.

Enter the Internet

Fortunately, recent years have seen a plethora of Web sites launched offering patent information – making such data much more widely accessible. This includes patent sites developed by organizations like Questel-Orbit (<http://www.qpat.com/>), CAS (<http://casweb.cas.org/chempatplus/>) and MicroPatent (<http://www.micropat.com/>), as well as products from new entrants like IBM (<http://patent.womplex.ibm.com/ibm.html>). In addition, patent information is available via the Web-based sci-tech service provided by STN (<http://stneasy.fiz-karlsruhe.de/>), and from Dialog (<http://www.krinfo.com/products/dselect/dsmain.html>).

The downside is that many of these sites tend to be limited in what they offer, be it in terms of searchability, coverage, the inclusion of images and diagrams or – an important issue for those working in a commercial environment – security. 'As of now, the coverage of patents on the Internet is not world-wide – there is a strong emphasis towards US publications.' Comments John Endacott, Formulation Information Specialist for Zeneca Agrochemicals, in the UK, adding: 'The use of Boolean logic and proximity operators tends to be more limited than online sources.'

As take-up of the Internet increases, however, these new services are growing in both coverage and sophistication. 'We continue to add content and functionality to the site: for example maintenance data and assignee codes,' says Peter Vanderheyden, solution executive with IBM's Government Industry Solution Unit. 'And we are currently testing some new features internally that would allow users to more readily exploit information in the patent database.'

MicroPatent too has been improving the searchability of its *PatentWeb* site. Now under new ownership (at the end of last year the company was purchased by US-based Information Ventures) MicroPatent plans also to shortly extend its collection of US patents back in time to 1964, and add front page data from Japanese patents.

Nevertheless, unlike traditional online patent databases, these services offer little in the way of indexing or abstracts. As Lynn Tellefsen, Marketing Director at MicroPatent, puts it: 'MicroPatent retains the integrity of the data as it is released by the US Patent and Trademark Office (USPTO) and other patent offices. In this manner, no indexing or other data manipulation is present.'

Derwent makes its move

For this reason, one of the more interesting developments in this area was last November's launch of Derwent Information's *Patent Explorer* (<http://www.patentexplorer.com/>). Developed in association with software giant Microsoft, Patent Explorer has upped the stakes in a number of ways.

To begin with, in launching *Patent Explore* Derwent is the first information provider to make both European and US patents available on the same Web site in both full text and image form, and currently the service includes nearly two million US documents dating from 1974, and over one million European documents dating from 1978.

Moreover, Derwent has paid a lot of attention to searchability with *Patent Explorer*. Like most Web-based services it utilizes user-friendly fill-in-the-box-and-click searching methods. In addition, however, by providing a number of simple search templates designed around standard searches – company search, legal search, people search etc. – unsophisticated users are guided through the search process in such a way that they are easily able to conduct effective searches with no prior knowledge of how a patent document is structured.

At the same time, by offering customizable sets of multiple input boxes, *Patent Explorer* enables professional users to search on 40 separate data fields (including a number of Derwent indexing and classification codes) using powerful Boolean search functions.

Patent Explorer: Standard Search (Search Default)

Search Field: Enter Your Search Here

Patent No. (93)

Abstract (93)

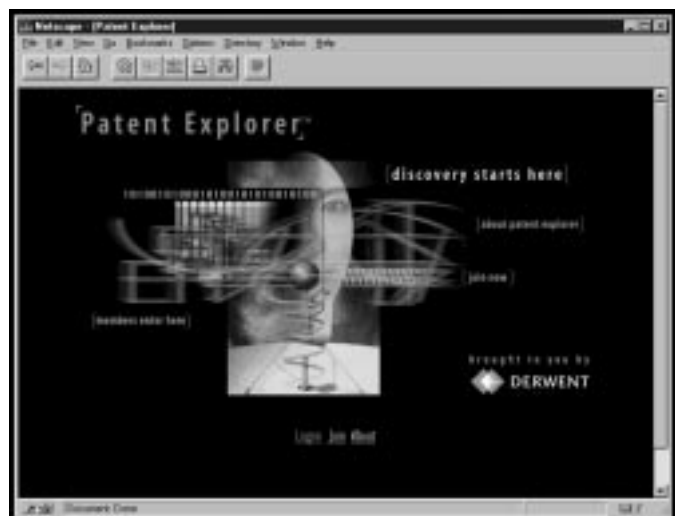
Inventor (93)

Assignee (93)

Date Range: No Restriction

Search Type: Operators AND, OR, NOT, XOR, NEAR

Total: 93



Patent Explorer: Standard Search (Custom Template)

Search Field: Enter Your Search Here

Patent No. (55)

Abstract (2454)

Inventor (885)

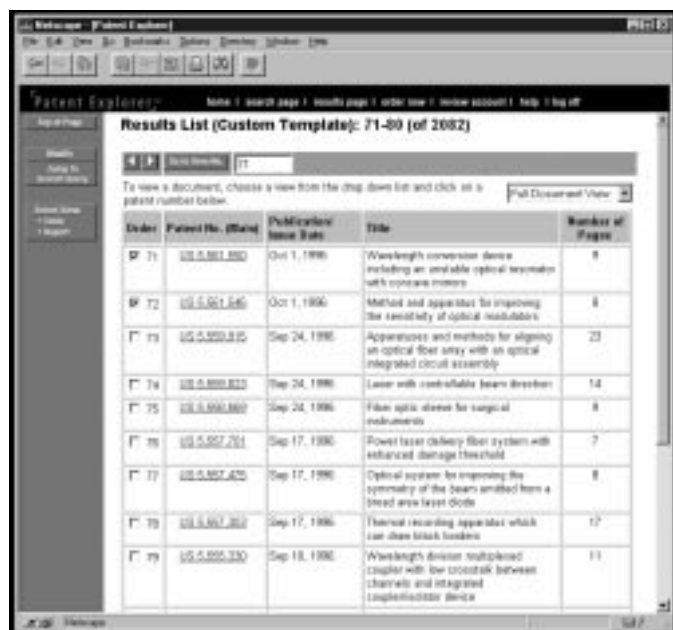
Assignee (421)

Date Range: This Year

Search Type: Operators AND, OR, NOT, XOR, NEAR

Total: 55

The end result is that both novice and professional users are able to undertake simple or complex searches using the same front-end. And by allowing users – or information professionals acting on their behalf – to create their own search and display templates, the service can be customized to suit the needs of individual users and/or companies.



Clearing up a misunderstanding

No one doubts that over time the new Internet-based services will become more sophisticated. Nor that coverage will improve. Nevertheless, there appears to have been some misunderstanding amongst information professionals as to what providers are trying to achieve. In a paper given at last year's Chemical Information Conference in Nîmes, for instance, Ursula Schoch-Grbler, Vice President, Scientific Information, at BASF, in Germany, commented: 'Instead of trying to lure newcomers to take a ride on their flagships – the value-added, deep-indexed files – some suppliers fob them off with raw patent material. Derwent, for example, which instead of trying to promote the advantages of the *World Patents Index*, dumps *Patent Explorer* on to potential users.'

Not only is the term 'raw data' here a little unfair, says Patent Explorer Commercial Manager, Bob Stembridge, but it was never the intention simply to replicate on the Internet what is already available via traditional online

hosts. *Patent Explorer*, he explains, has been designed to serve a very different purpose to the company's traditional products – and to address a different audience. 'While Derwent envisages that information professionals will find *Patent Explorer* an excellent way to do a quick and simple search,' he says, 'the service has been designed primarily for end-users.'

The major – and novel – feature of *Patent Explorer* is that it offers patent information in both HTML full text and as images of complete documents. This, Mr. Stembridge explains, distinguishes it from all Derwent's other products. 'Derwent's flagship product, *World Patents Index (WPI)*, consists of abstracts of patent documents,' he explains. 'This allows information professionals to quickly identify those inventions that look relevant to their customers. On the other hand, by offering the full text of patent documents, *Patent Explorer* is more appropriate for end-users. Thus the lawyer who needs to know the full legal scope of an invention can immediately display the claims section on the screen. Likewise, scientists or engineers who need full experimental details can directly access that information for themselves online.'

Nevertheless, as Mr. Stembridge indicates, these new services do also have a role for information professionals. And *Patent Explorer*, in particular, is able to offer the advanced searching capabilities that would support such usage.

Despite his preference for online hosts, Mr. Endacott concedes that the new Web services are able to provide some unique features. 'I often use the IBM and USPTO sites,' he concedes. 'These enable me to not only search the front page and claims for US patents, but also to browse the US Classification system. The latter is not available in this form online. I have also used QPAT, Derwent and Micropatent.'

Benefits galore

More generally, few dispute that these new Internet sites offer a wide range of exciting new features. Above all, the Web is an ideal medium for delivering full text patents to the desktop. Moreover, it is able to do this by means of a simple intuitive search interface and a friendly graphical display – allowing unsophisticated searchers to conduct online searches with limited, or no, training. In addition, of course, it offers hyperlinking capabilities. As Nancy Lambert, an Information Analyst working for the Information Resources Management unit of Chevron's

Business Planning and Services Group, points out: 'It's really nice to be able to click on a patent number and pull up the image, complete with drawings.'

For Jordi Gasull, an information scientist working for Luxembourg-based Eurotech Data, the biggest attraction of the Web is the opportunity it provides for users to manipulate and exploit downloaded documents. Being able to print, display, attach and forward, rich HTML and PDF files, including any images and graphics, and to merge them into internal reports, says Mr. Gasull, makes it possible for intermediaries to present information to clients in a more professional manner. It also makes it easier to provide valued-added services. 'What is most interesting about the Web,' he says, 'is that its format advantages provide us with the tools to create new internal services, including delivery via intranets.'

From the providers' point of view, the Web allows them to tap new markets, not just end-users per se, but completely new industry sectors. 'We have very good penetration of our traditional core customers – particularly corporate patent information departments in the pharmaceutical and chemical industries,' says Mr. Stembridge. 'But our traditional products don't serve other industries so well. For instance, the language of engineering is essentially drawings and diagrams. Currently, however, traditional online services generally only offer a limited choice of diagrams. WPI on Dialog, for instance, has just one drawing available with each patent record. But in order to fully understand how a patented device operates an engineer is likely to need all the drawings, as well as a description of them.'

Thus by offering complete patent documents, including all the diagrams, Derwent hopes to attract a new type of user with *Patent Explorer*. Moreover, because documents in *Patent Explorer* do not need to be indexed to the same level as WPI, or to have explanatory abstracts composed and attached, Derwent is able to load patent documents on *Patent Explorer* within days, rather than the five or six weeks needed for WPI. Explains Chris Moore, Marketing Manager for Patent Explorer: 'We will be taking information directly from patent offices. So if a patent is published this week it will be available on the service by the next Monday, making Patent Explorer one of the most current Internet patent services available.'

Web-based services also open a vital new channel to the traditionally hard-to-reach small business market, says Ms. Tellefsen, 'It provides the means for small end-users to have access to a wealth of information that with other mediums would be cost-prohibitive.'

Frustrating teething problems

But while the Web offers attractive new benefits, it cannot be denied that there are also some frustrating teething problems for users. Most crucially, the speed and reliability of the Internet is a growing concern for many users. 'I would estimate that no more than 5% of my time on any particular search is currently spent obtaining information from the Internet,' says Mr. Endacott. 'Searching can be very slow and time consuming, especially in the afternoon.'

For Martin Goffman – a US-based information broker who has to rely on modem access – the situation is even more frustrating, especially when it comes to downloading patent images. 'Slow modem access to the graphical files is intolerable,' he says. 'Higher speed connections are imperative, and while cable modems and satellite seem to be the answer, they are still some way off in the future.'

Users are also concerned about security, both the issue of purchasing information over the Internet, as well as the fear that third parties may be able to monitor their search strategies – a sensitive matter for heavily research-based companies concerned that their competitors could gain an advantage if they were to discover their current research activities.

Thus, although the IBM site is free and includes some powerful search capabilities, many information professionals have been reluctant to use the service due to persistent rumours that IBM has been mining users' search strategies – a rumour IBM denies. 'We do not mine the data logs except to gather gross statistical information to help make improvements to the site,' insists Mr. Vanderheyden, adding, 'We do not knowingly allow others to mine any of the data.' Nevertheless, concerns remain – particularly for those operating in the same markets as IBM. Clearly, few companies are comfortable buying information from a competitor.

Not surprisingly, Derwent has paid a lot of attention to security in developing *Patent Explorer*, and Mr. Stembridge is keen to stress both the company's commitment to confidentiality, as well as the security measures it takes to protect those planning to pay for patent documents with a credit card. Credit card information is secured within the application, he says, with encryption implemented across the entire *Patent Explorer* site, and 'combined with the Secure Sockets Layer (SSL) security protocol.'

Putting a price on it

With IBM offering patent information free of charge traditional providers face a major pricing challenge. The first rule appears to be that you don't charge for searching. Internet users expect free searching,' says Ms. Lambert, adding, 'Most of the patent databases provide this, with some notable exceptions.'

One such exception says Ms. Lambert was Dialog's *ScienceBase*, which was priced at \$50 a month, plus \$5 per reference to display Derwent patent abstracts. For this reason, perhaps, *ScienceBase* failed to attract many users, and last year Dialog took the decision to close the service. In January users were migrated across to the more broadly-based Web product, *Dialog Select*. 'Dialog Select is priced on a pay-as-you-go basis,' a FAQ put out by Dialog underlines. 'There is no monthly fee, no annual fee, and no search and retrieval. Customers only pay for documents they retrieve.'

True, *ScienceBase* was not a dedicated patent service, but merely offered patent information as part of a wider sci-tech offering – as does *Dialog Select*. Nevertheless, new entrant Derwent has been careful to provide a flexible pricing scheme that caters for varying levels of usage, and different types of user. Thus casual users can choose a pay-as-you-go option; more frequent users can select a pre-payment arrangement more suitable for their specific needs.

In contrast, Questel-Orbit continues to maintain its annual subscription of \$1995 as the only available billing method for *QPAT*, although this does allow for unlimited usage. Coupled with the very sophisticated searching capabilities incorporated into the service, this would suggest that *QPAT* is targeted more at the larger corporate and information professional markets, rather than the individual end-user.

Whether pricing will prove to be a long-term issue is unclear. Mr. Goffman believes the problem will eventually go away. 'In my view, people too commonly associate Internet information with "free" information, or information that should be free,' he says. 'I'm not one that believes that. If the information is needed and the quality is good, then reasonable and fair pricing is an appropriate trend.'

Current thinking at IBM appears to be moving in the same direction, and the company is planning to offer a second level paid-for service. Explains Mr. Vanderheyden, 'Some customers are asking us to offer additional services, such as downloads, SSL connections, full-text

searches of the full-text file (not just searches through the extended bibliographic data) etc. As a result we're considering launching a premium, for-fee, patent information service on the Web.'

Much will hinge on the patent offices

Future pricing structures will surely depend on what patent offices do. In fact, many argue, the very future of online patent information itself hinges on the actions of the patent offices. Right now an increasing number are starting to make patent documents directly available over the Web, at no charge to the user. The USPTO first made *PatBib*, a bibliographic patent database, available on its Web site back in 1995. Likewise, the Canadian Patent Office has also made patent data directly available (http://strategis.ic.gc.ca/sc_innov/patent/engdoc/cover.html). More recently the Japanese Patent Office has put up a test site (<http://www2.jpo-miti.go.jp/>), although currently documents are only in Japanese and last December the European Patent Office announced that it too is moving in this direction, with plans to make patent data available on its site from mid-1998 (<http://www.european-patent-office.org/>). 'The service will be targeted at the general public', confirms Grard Giroud, Principal Director, Patent Information at the EPO, 'with the emphasis being placed on serving the needs of individuals and/or small to medium size enterprises wishing to find some basic information available in patent publications.'

While this may all at first seem a welcome development, users will clearly not want to have to visit each authority's site and conduct a separate search in order to get a meaningful picture. The doomsday scenario is that such a development could precipitate a spiral of disaggregation and threaten the survival of third party providers. A development, says Ms. Tellefsen, that would be 'a huge step backwards'. In such a situation, she argues, users would be at the mercy of each patent authority. In addition, there would be a loss of impetus to improve and grow patent information services. 'It would be far less convenient to access multiple sites, learn the different syntax, pay varying rates in multiple currencies, and constantly adjust to the inevitable changes to each site's content and coverage, functionality, and features,' she says.

Users are also concerned that a proliferation of Web-based patents sites would rule out any hope of being able to replicate the cross-file searching functionality available on online hosts. 'Multi-file searching is essential for various reasons,' warns Lucy Virden, a US-based patent searcher working for Exxon, 'especially with respect to patent information.'

Interestingly, the EPO plans a two-layered service that will go some way beyond the scope of what patent offices have until now provided. The first level intended as a current awareness service, will be a bibliographic database of patents published in the preceding two years by all member states. In addition, a second level 'global' service will offer bibliographic data of patent documents from around the world. In total this will amount to around 26 million documents and will go back, in some cases, to 1920. This second level will also offer the front page image and drawings, plus the full text of a 'representative' document for each patent family.

Status quo threatened

Clearly if patent offices start to by-pass third party suppliers it will upset the current status quo. However laudable their intentions, say critics, they could – unwittingly perhaps – precipitate a deterioration in the availability and quality of patent information.

For instance, these critics argue, it is highly unlikely that patent offices will devote much time developing the sophisticated indexing and abstracting services available from secondary publishers. It is likewise unlikely that they would replicate the chemical structure searching functionality available through online hosts.

As Jane Myers, Director, Office of Electronic Information Products at the US Patent and Trademark Office confirms, 'We are considering the addition of first page (clipped) images to *PatBib*. Beyond that we have no plans to expand content or functionality. We will continue to sell our database tapes to commercial vendors, expecting them to add value to the data and assist us in our mission by reaching additional customers.'

More importantly, users are worried that by making this data available over the Internet patent offices will reduce the revenues of secondary publishers and online hosts, leading to their inevitable withdrawal from the market-place – with the result that the only patent information available will be the 'raw data' from patent offices. The provision of free patent information on the

Web, says John Wickenden, Librarian and Team Leader of the Information Centre at Eli Lilly Research Centre, UK, could prove a double-edged weapon. 'If the value-added providers were to withdraw from the market it would be a serious drawback,' he says. 'It would certainly be a concern for me as the value-added component is of particular importance to information professionals.'

Mr. Giroud disagrees. 'According to information confirmed by several commercial providers the revenue from 'non-professional users and the general public' (the group targeted by the EPO Internet service) is very low,' he says. 'The patent offices' Internet activities will in fact promote the use of patent information intensively and, in the medium term, certainly expand the market for commercial providers.'

Dan Wagner, CEO of the Dialog Corporation, tends to agree. He dismisses suggestions that secondary providers face a loss of revenue as a result of the free Internet-based services. 'The US patent office is our largest customer for patent information,' he argues. 'So despite having its own service it still believes it is more efficient to search using our search interface. I am confident that professional users will continue to use the professional service offered by us – even though it may cost them.'

Such discussions come at a sensitive time for Dialog. Following its acquisition by MAID, there have been widespread fears that the company may withdraw from the sci-tech information market and concentrate on business information. The actions of patent offices have heightened concerns that Dialog may at least decide to discard its patent portfolio.

Mr. Wagner, however, denies that there is any such intention. 'We are 150% committed to sci-tech information, including patents,' he insists.

The technology theory

Steven Heller, a guest researcher at the US National Institute of Standards and Technology, likewise rejects the doomsday scenario, although for quite different reasons. Such concerns are misplaced, he says, because software companies and search engine developers will soon be offering ways of sifting and pinpointing patent data that will probably make both aggregation and the indexing and abstracting of patent documents, redundant.

'It is not clear that the valued-added activities won't be available with more modern computer/database systems on the Internet,' he insists, arguing that next-generation search engines will be able to search on raw patent documents, regardless of where they sit on the Internet, and whatever state they are in, without the need for human intervention. 'I see a future in which Internet search engines will be able to search text, structures, and images of patents from patent repositories from all countries,' he enthuses. 'I see companies like IBM working with patent offices around the world to pull together such a system.'

Image-searching capabilities already exist, confirms Mr. Vanderheyden. 'IBM does this today with our Query by Image Content (QBIC) image search engine. We have already developed systems to do colour searches on sample trademark data.' Nevertheless, Mr. Vanderheyden is cautious when it comes to predicting that search engines could eventually replace indexing and abstract databases. 'It's too early to tell what might occur in such a speculative, future scenario,' he responds.

Mr. Moore is even more sceptical, pointing out that any such search engine would not only need to be able to search in a large number of languages, but it would need to be vastly superior to any existing technology if it were to be able to make sense of patent images. 'Image classification still has some way to go,' he says, 'and as the drawing reflects what is described in the text, it can be as frustratingly difficult to interpret as the text of a patent. It will probably be some time before image searching can be regarded as viable for patent information.'

Online hosts still dominate – for now

Whatever the future holds, when it comes to doing a thorough patent search today it is still to an online host that information professionals usually turn. 'There is no doubt in my mind that the traditional online services are still much better,' says Liz Stoehr, Senior Information Specialist at US-based Reichhold Chemicals. 'Whenever I use an 'end-user' product I always feel that I have not done a thorough job. If I just want to look something up quick, or do a non-comprehensive, broad-based patent search, it's cheaper for me to go to a Web service. However, I usually find myself back at Derwent's *World Patents Index* [i.e. via an online host] to cover all bases.'

When pressed most also express considerable scepticism at Mr. Heller's futuristic picture. 'I would think it unlikely that abstracted and indexed databases will become redundant,' says Mr. Endacott. 'Even if search engines capable of producing the same results on a full text database might exist, searchers will tend to feel more comfortable and in control of their search output when using the indexed systems.'

A flurry of activity

One thing is clear: the patent information market is seeing a flurry of activity right now. As well as being the venue for the EPO announcement, Online '97 saw both the first public showing of *Patent Explorer* in Europe, as well as the unveiling of the beta version of a new Web product from MicroPatent called *World Patent Search*. This, says Ms. Tellefsen, 'will feature searching across US, PCT and EP patent databases, with a seamless link to our document delivery service.'

Bertelsmann too was showing a Web service at Online – in this case a new current awareness product that offers users the front page image from any new US, European and WIPO patents fitting a predefined customised profile. Meanwhile IBM is testing a new site containing WIPO and PCT patent information, and Questel-Orbit is working to improve its *QPAT* service. 'In the last 12 months we have improved the software in order to increase the speed of searching, and we have developed SSL Encryption,' says Thomas Barbelet, Communications Manager at Questel-Orbit, adding, 'We are also currently working to add new functionality.'

More significantly, more and more patent offices are drawing up plans to offer their data over the Internet – the latest to announce such intentions is the Australian Patent Office.

Looking to the future

Clearly Web-based patent information services look set to flourish. Whether information professionals ever completely abandon online hosts in favour of the new services will depend on the level of functionality they can offer. 'For Internet sources to claim a greater share of the information market there would need to be a number of improvements,' says Mr. Endacott. 'For instance, ex-

tended country coverage of bibliographic/full text details, browsable IPC and EPO classifications, and greater indexing and structure searching capabilities.'

More complex functions like structure searching are certainly possible over the Internet, says Mr. Moore. 'In fact the World Wide Web offers a much friendlier environment for the development of this kind of searching than that of the traditional online host, and tools are already available for structure searching,' he explains. 'The next step would be to provide 3D representations for molecular modelling purposes – something not even within the realms of possibility in a traditional online environment.'

Rather than being a threat to online providers, however, Mr. Wickenden believes that the Internet offers them a great opportunity. 'It's quite likely that traditional online searching will decline,' he says. 'But the online providers are developing Web products and we can no doubt expect to see them migrate into whatever the latest technology is in order to provide the value-added data that they offer via the traditional services.'

Nevertheless, we can expect to see increasing competition from the newer players. IBM, for instance, harbours quite far-reaching ambitions in the delivery of online patent information. 'We are interested in playing a key role in linking and making the world's intellectual property generally available to much wider audiences,' confirms Mr. Vanderheyden. 'IBM would like to become the primary delivery vehicle for information from a variety of sources.' To that end IBM is already working on projects with the Netherlands and the Canadian Intellectual Property Offices.

Moreover, stresses Mr. Vanderheyden, the interactive nature of the Internet means that providers will need to offer services that go some way beyond the boundaries of traditional online. 'We envision this new content-delivery channel enabling many patent-related operations and transactions to be handled directly with governments via networks such as the Internet,' he says. 'For example, we can envision people in the future searching for prior art, filing for patents and marketing their intellectual property over the World Wide Web, as well as using it for document delivery, data storage, and personal libraries.'

Added value – the key differentiator

One thing is for sure: the arrival of the patent offices on the Web has changed the rules of the game for ever. As Mr. Giroud expresses it, 'In the future commercial providers will have to make sure they provide added value in order to justify the price they expect users to pay.'

In other words, however plausible or implausible Mr. Heller's vision may prove in the long term, in the short to medium term, the best hope for traditional providers of patent information will lie in being able to offer value-added services that can assist unsophisticated end-users to quickly and efficiently pinpoint information that is relevant to their needs, and to help them interpret that information once they have retrieved it.

In this value-added space the company with a head start is Derwent. With 20 years' experience developing the kind of sophisticated indexed databases and abstract services that will be essential in assisting Web users sift the wheat from the chaff, the company faces a wonderful opportunity to leverage its services and skills into cyberspace. *Patent Explorer*, says Mr Moore, is but the first stage of that process.

'Patent documents are complex, written in an obfuscatory style, and published in different languages,' he adds. 'The EPO, for instance, publishes in three languages, and for certain types of document only publishes bibliographic and reference details. As the publications issued by the patent offices become more widely available, the value of the indexing and abstracting that Derwent provides becomes more apparent.'

Regardless of which providers win this particular 'patent war', current developments hold out the promise of removing the barriers that have for so long made patent information seem like an arcane art to much of the wider business community, particularly the small to medium sized business. The prime motivation driving the EPO on to the Web, says Mr. Giroud, is a determination to 'broaden the information horizon of non-specialists [such that] it will be a normal step to consult patent documents – and not just in one country, but worldwide.'

If successful, these new services will help to spread those scarce corporate R&D dollars further, and enhance the process of innovation. It will also mean that companies will be far better prepared for the new knowledge-based economy now widely predicted.

Certainly Ms. Stoehr is hopeful that by making this information more widely available to scientists in companies like Reichhold Chemicals the new services will have a very beneficial effect. 'This trend could potentially influence technological advances by letting people know not to explore an already addressed or saturated area,'

she says. 'Conversely it could spur them on to more technological breakthroughs in their area – looking at other people's patents sometimes gives scientists more ideas, and shows them things they had not thought of.'

Reference

- [1] F. Warshofsky (1994) *The Patent Wars: The Battle to Own the World's Technology*. New York, John Wiley & Sons, Inc.